"BEHAVIOUR BASED SAFETY OBSERVATION SYSTEM AND METHOD"

TECHNICAL FIELD

The present invention relates to a system and method for the collection and management of data relating to behavioural based safety observations.

BACKGROUND ART

Behavioural based safety observation has traditionally been recorded on a check-sheet and then keyed into a computer system. This process is time consuming and unnecessarily labour intensive. The process requires the observer to observe a person's behaviour and record the behaviour on a check-sheet. A data entry operator keys in the information and then management staff typically sort the data for analysis. Real-time analysis and examination of company safety performance may not be possible and are only consolidated for presentation on a periodic basis.

The multi-step process is inefficient. It would be desirable to reduce the steps involved to improve the data collection process, increase productivity, minimise costs, maximise data integrity.

SUMMARY OF THE INVENTION

It is an object of the present invention to implement a behavioural based safety observation system and method that overcomes the disadvantages of existing systems or at least provides the public or industry with a useful choice.

In a first embodiment the present invention consists in a system for the collection and management of data relating to behavioural based safety observation, comprising:

a portable device including a processor, memory and a communication device, said memory storing a software application for the collection of data observed by a safety observer, said memory storing the observations of said

observer, wherein said observations are communicated periodically to a storage server; and

a storage and reporting server, said server collating said observations received from said portable device.

Preferably said portable device is a personal digital assistant.

Preferably said portable device includes an SQL database for storing observations.

Preferably said storage server is an SQL server for storing said collected information.

Preferably said reporting server includes application tools for generating reports.

Preferably said storage server and said reporting servers are separate systems.

In a second embodiment the present invention consists in a method of collection and management of data relating to behavioural based safety observations, comprising the steps of:

collecting observational data using a portable device including a data collection application;

storing said collected data;

periodically communicating said collected data to storage system; and

collating said stored data to produce reports

Preferably said portable device is a personal digital assistant.

Preferably said portable device includes an SQL database for storing observations.

Preferably said storage system is an SQL server for storing said collected information.

Preferably said reporting server includes application tools for generating reports.

Preferably said storage server and said reporting servers are separate systems.

BRIEF DESCRIPTION OF THE DRAWINGS

One preferred form of the present invention will now be described with reference to the accompanying drawings in which:

Figure 1 is a block diagram of the system of the present invention,

Figure 2 is an exemplary portable device of the present invention;

Figure 3 is a flow diagram of the data capture method of the present invention;

Figures 4 to 14 are example data entry forms displayed by the portable device of the present invention; and

Figures 15 to 18 are examples of the reports produced by the present invention.

DETAILED DESCRIPTION

In this specification, where reference has been made to external sources of information, including patent specifications and other documents, this is generally for the purpose of providing a context for discussing the features of the present invention. Unless stated otherwise, reference to such sources of information is not to be construed, in any jurisdiction, as an admission that such sources of information are prior art or form part of the common general knowledge in the art.

As used herein the term "and/or" means "and" or "or", or both.

As used herein "(s)" following a noun means the plural and/or singular forms of the noun.

The term "comprising" as used in this specification and claims means "consisting at least in part of". When interpreting statements in this specification and claims which include that term, the features, prefaced by that term in each statement, all need to be present but other features can also be present. Related terms such as "comprise" and "comprised" are to be interpreted in the same manner.

It is intended that reference to a range of numbers disclosed herein (for example, 1 to 10) also incorporates reference to all rational numbers within that range (for example, 1, 1.1, 2, 3, 3.9, 4, 5, 6, 6.5, 7, 8, 9 and 10) and also any range of rational numbers within that range (for example, 2 to 8, 1.5 to 5.5 and 3.1 to 4.7).

The entire disclosures of all applications, patents and publications, cited above and below, if any, are hereby incorporated by reference.

Referring to Figure 1 the present invention provides a system and method for the collection and management of data relating to behavioural based safety observation through the use of hand-held device 101. The handheld device 101 is typically a personal digital assistant. The handheld device 101 includes a CPU and memory, in the preferred embodiment the handheld device includes an SQL server 110 for storage. The handheld device also stores and runs an application 105 for the collection of behavioural based safety observations. Referring to Figure 2 the device 101 further includes a screen 202; the screen 202 is preferably a touch screen.

The hand held device also includes means for communication 106 with other systems. The communication system of the device may include a docking device, a wireless device or a device for communicating with an Ethernet or other network. Any communication interface that can link the device and a network server or other computer would be suitable.

The hand held device 101 is used by observers while they are observing behaviour. The observers enter their observations into the device 101 using the device keypad 203 or other interface such as a touch screen 202. Example data input screens can

be seen in Figures 4 to 14. When the behavioural observation is complete the observer will transfer the data to a centralised server 102. The data may be transferred after a number of observations are completed or after every observation.

Inputted data is then sorted and analysed by the centralised server 103 to provide useful and timely information. The information is provided using known software, for example Microsoft SQL Server Reporting Services Designers. Company or organisation management can then access the information which will provide information on the safety performance of the company via an internet/intranet webpage. Example reports can be seen in Figures 15 to 18.

The reporting server 103 and the storage server 102 may be a single system or may be multiple systems. The reporting server 103 preferably has a data storage system 114 which can store or access the data in the storage system 102

The reporting server 103 includes the ability to calculate the percentage (%) of safe and at-risk behaviour. The reporting server 103 can also provide a barrier analysis, based on the input provided by the observers, to help companies and organisations understand the current problems faced by the workers. In a further alternative the reporting system will also allow management an option to select the most appropriate strategy to remove the barriers.

The reporting system can analyse the behavioural based safety observation data on a real-time basis, and based on the highest identified risk can correctly direct management to the most important area of focus and assist in the development of action plans for common at-risk behaviours observed.

The use of a hand-held device, together with a customisation of the data required will provide management with a customised behavioural based safety observation report and proposed list of alternatives to reduce the at-risk behaviours and achieve safety excellence.

Referring to Figure 3 the method of data capture of the present invention will be described. An observer using a portable device 101 or PDA records 302 the behaviour of workers as they work. The completed observations are transferred 303 to a database storage server. The reporting/storage server will generate a behavioural barriers report and coaching guide 304. This is done using known software such as the Microsoft SQL Server Reporting Services Designers. The coaching guide is then transferred to the portable device for use by the observers to guide the workers when carrying out their observations.

The present invention offers companies and organisations a number of benefits. Using a portable device to directly enter data and then transferring the data from the device to a computer system provides the following benefits:

(a) An improved data input process as users do not need to type from handwritten sheets into a computer system. This will motivate the behaviour observers to carry out observations with ease and improve work productivity. The easy of use will allow for the creation of a "SAFE" culture. The use of a portable device will help reduce the burden observers feel in carrying out behavioural analysis.

(b) Accidents will be reduced because the use of a portable device will provide more timely data. In turn management can be made aware and address rises in certain at-risk behaviours which require immediate attention

(c) The improved collection will ultimately reduce costs as accidents that might happen can be anticipated. With a reduction in the accident rate costs are reduced.

(d) Improvements in key performance indicators related to safety, these in turn are often linked to performance incentives, so observers will have further incentive to carry out the process using the portable device.

The foregoing description of the preferred embodiment of the invention has been presented for purposes of illustration and description. It is not intended to be

exhaustive or to limit the invention to the precise forms disclosed, since many modifications or variations thereof are possible in the light of the above teaching. All such modifications and variations are within the scope of the invention. The embodiments described herein were chosen and described in order best to explain the principles of the invention and its practical application, thereby to enable others skilled in the art to utilise the invention in various embodiments and with various modifications as are suited to the particular use contemplated thereof. It is intended that the scope of the invention be defined by the claims appended hereto, when interpreted in accordance with the full breadth to which they are legally and equitably suited.

CLAIMS

1. A system for the collection and management of data relating to behavioural based safety observation, comprising:

a portable device including a processor, memory and a communication device, said memory storing a software application for the collection of data observed by a safety observer, said memory storing the observations of said observer, wherein said observations are communicated periodically to a storage server; and

a storage and reporting server, said server collating said observations received from said portable device.

2. A system for the collection and management of data relating to behavioural based safety observation, as claimed in claim 1 wherein said portable device is a personal digital assistant.

3. A system for the collection and management of data relating to behavioural based safety observation, as claimed in claim 1 or claim 2 wherein said portable device includes an SQL database for storing observations.

4. A system for the collection and management of data relating to behavioural based safety observation, as claimed in any one of claims 1 to 3 wherein said storage server is an SQL server for storing said collected information.

5. A system for the collection and management of data relating to behavioural based safety observation, as claimed in any one of claims 1 to 4 wherein said reporting server includes application tools for generating reports.

6. A system for the collection and management of data relating to behavioural based safety observation, as claimed in any one of claims 1 to 5 wherein said storage server and said reporting servers are separate systems.

7. A method of collection and management of data relating to behavioural based safety observations, comprising the steps of:

collecting observational data using a portable device including a data collection application;

storing said collected data;

periodically communicating said collected data to storage system; and

collating said stored data to produce reports

8. A method of collection and management of data relating to behavioural based safety observations, as claimed in claim 7 wherein said portable device is a personal digital assistant.

9. A method of collection and management of data relating to behavioural based safety observations, as claimed in claim 7 or claim 8 wherein said portable device includes an SQL database for storing observations.

10. A method of collection and management of data relating to behavioural based safety observations, as claimed in any one of claims 7 to 9 wherein said storage system is an SQL server for storing said collected information.

11. A method of collection and management of data relating to behavioural based safety observations, as claimed in any one of claims 7 to 10 wherein said reporting server includes application tools for generating reports.

12. A method of collection and management of data relating to behavioural based safety observations, as claimed in any one of claims 7 to 11 wherein said storage server and said reporting servers are separate systems.